

Work Order ID 164524

Wednesday, July 19, 2017 2:22:13 AM

164524

Page 1

Item ID: D4278-045 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Rib Assembly, Fwd Cham

Start Date: 7/19/2017 Start Qty: 4.00 ***A* 8^{DAS} 21** Cust Item ID:
 Required Date: 7/21/2017 Req'd Qty: 4.00 ***4* 9-89** Customer:

Reference:

Approvals: Process Plan: DAS 21 Date: JUL 19 2017 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4277	D
D4278	C

100 Weld per dwg A/R S.S. rod Batch: B-38057 0.00

100

Large Fab Memo 0.72
 Large Fab 1- Assemble ribs and weld as per dwg use DT9820

8-9 17-07-25

110 QC9- Inspect visual per QSI004- Fusion Welds 0.00

110

QC Memo 0.00
 Quality Control

8y **DAS 43** 9-89 **JUL 25 2017**

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Page 2

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC5- Inspect part completeness to step on W/O	0.00						DAS	
120							8x	43	JUL 25 2017
QC	Memo	0.08						9-89	
Quality Control									
130	Identify as per dwg & Stock Location: <u>WVA 09</u>	0.00						DAS	
130							8x	43	JUL 25 2017
Packaging	Memo	0.04						9-89	
Packaging	***STOCK IN BASKET CELL*** LOCATION: WA004								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.40							
Quality Control									

17/7/26 *[Signature]*

DAS
21
9-89
JUL 25 2017
JUL 25 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

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Picklist Print

Wednesday, July 19, 2017 2:22:15 AM

Page 1

Work Order ID: 164524

164524

Parent Item: D4278-045

D4278-045

Parent Item Name: Rib Assembly, Fwd Cham

Start Date: 7/19/2017

Required Date: 7/21/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A 10.11.12 new issue DD verf:EC
11.01.20 AS PER DWG REV.C DD verf:EC

IPP Rev:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4277-11 Rib		Manufactured	No			100	Each	0.0000	1	4			
D4277-11										**	B/63979 8. C		
D4277-7 Rib		Manufactured	No			100	Each	4.0000	1	4			
D4277-7										**	B/63954 8. 9		

Location

Loc Qty

Loc Code

WA004

4

146374

4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

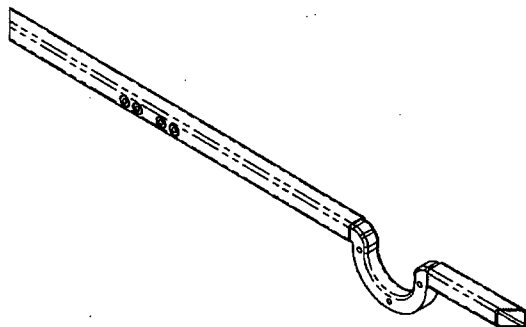
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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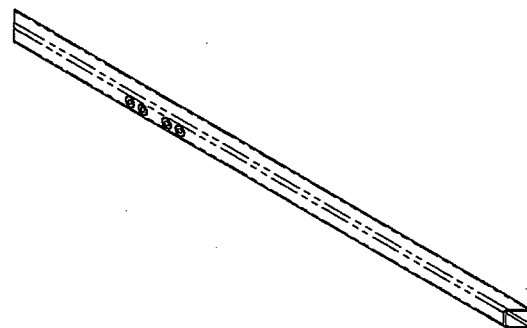
SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 164524MLJ

1707-19

D4278-041 UPPER RIB ASSY-HOOP 



D4278-047 UPPER RIB ASSY-STRAIGHT 



D4278-045 RIB ASSY. FWD CHAM



RELEASED
 2011-01-18
 M

C	ADDITIONAL HOLES ADDED IN D4278-041/047	SC	10.12.23
B	RMV -043 (OBSOLETE)	CP	10.11.30
A	NEW ISSUE	SC	10.11.25
REV.	DESCRIPTION	BY	DATE
DESIGN	JPH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4278	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		RIB ASSEMBLY	NTS
DATE	10.12.23	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



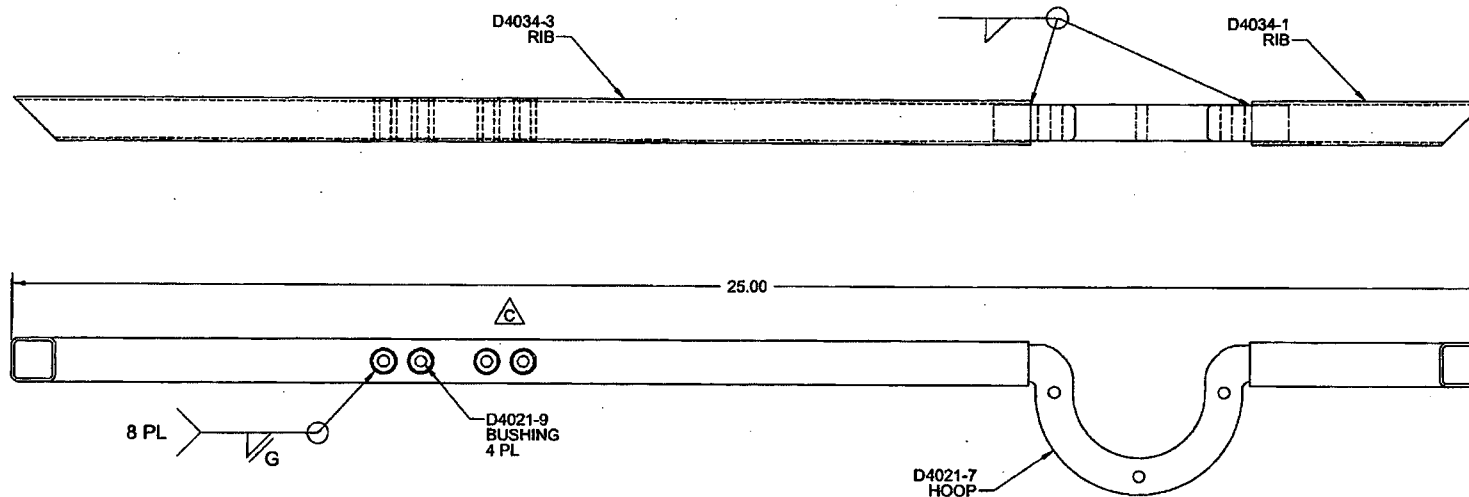
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Description Work Order Deviation		Disposition			Completed By
					Lead hand / Supervisor Approval Verification
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Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

ITEM	QTY	PART NUMBER	DESCRIPTION
	1	D4278-041	UPPER RIB ASSY-HOOP
1	1	D4021-7	HOOP
2	4	D4021-9	BUSHING
3	1	D4034-1	RIB
4	1	D4034-3	RIB



D4278-041 UPPER RIB ASSY-HOOP

RELEASED
2011-01-18

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.61 lbs
- 8) WELD PER DART QSI 004

DESIGN	JRH	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4278	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		RIB ASSEMBLY	NTS
DATE	10.12.23	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

DQA: _____ Date: _____



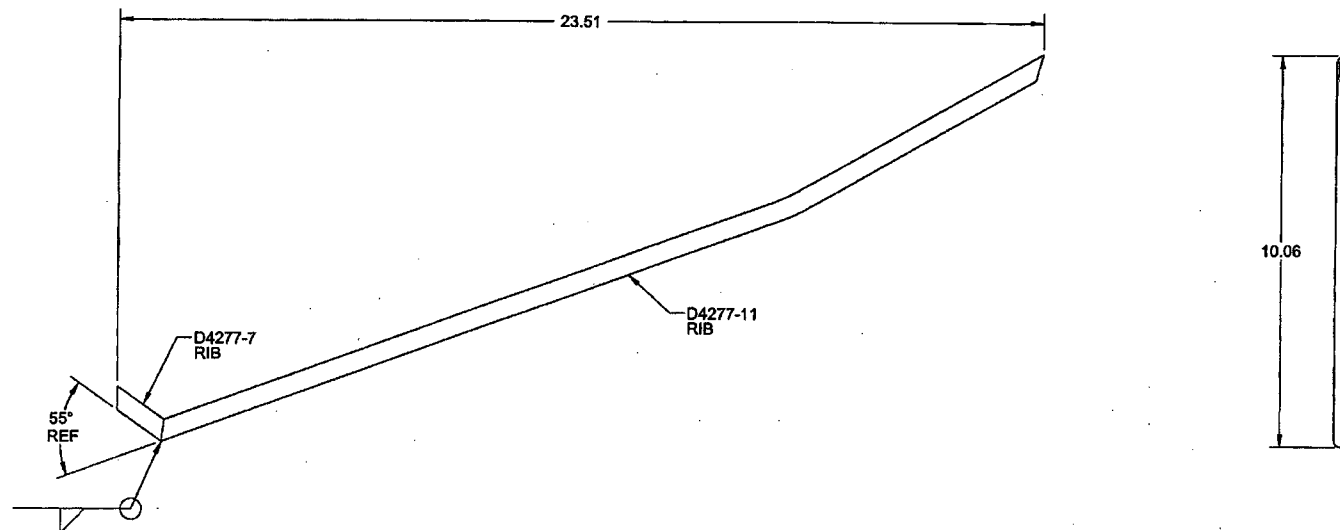
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Misidentified ☐	Past Due ☐								

ITEM	QTY	PART NUMBER	DESCRIPTION
	1	D4278-045	RIB ASSY, FWD CHAM
1	1	D4277-7	MID CORNER RIB, NOTCH
2	1	D4277-11	MID DIAG RIB



D4278-045 RIB ASSY, FWD CHAM

10.06

RELEASED
2011-01-18
JW

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.57 lbs
- 8) WELD PER DART QSI 004.

DESIGN	JPH	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4278	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		RIB ASSEMBLY	NTS
DATE	10.12.23	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



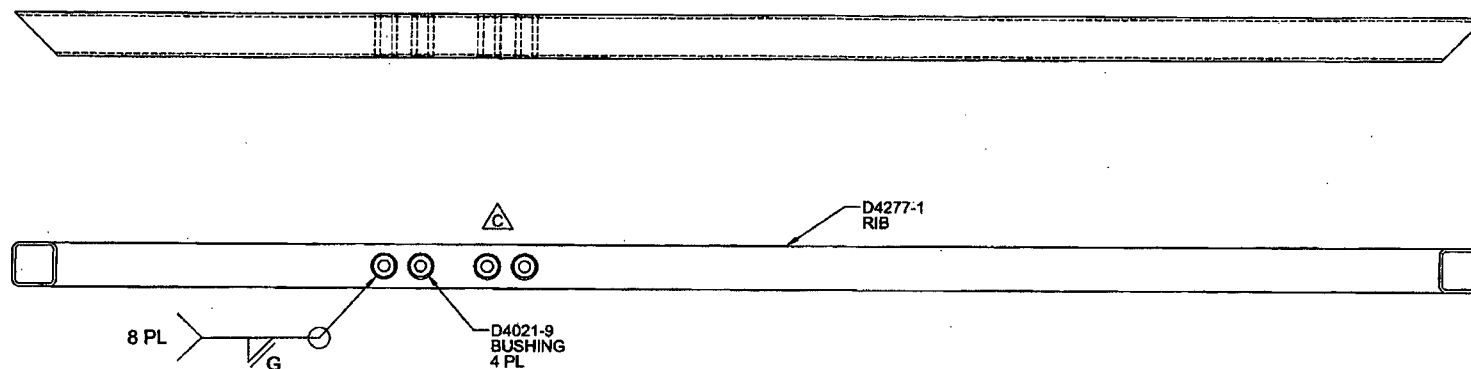
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	☐	Past Due ☐							

ITEM	QTY	PART NUMBER	DESCRIPTION
	-047	D4278-047	UPPER RIB ASSY-STRAIGHT
1	4	D4021-9	BUSHING
2	1	D4277-1	RIB



D4278-047 UPPER RIB ASSY-STRAIGHT

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.95 lbs
- 8) WELD PER DART QSI 004.

RELEASED
2011-01-18
MM

DESIGN	JPH	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4278	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		RIB ASSEMBLY	NTS
DATE	10.12.23	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
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DQA: _____ Date: _____

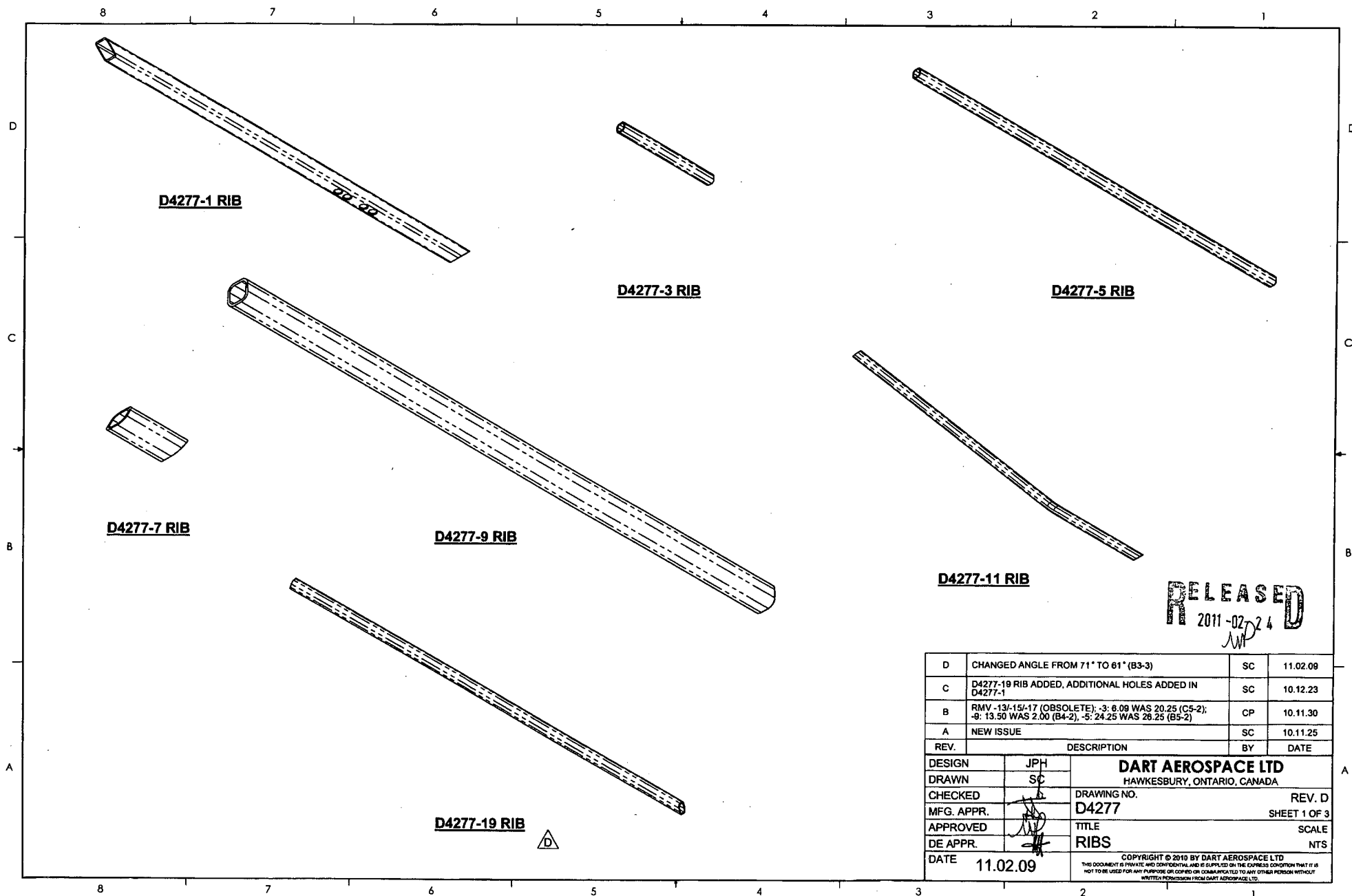


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																																																																																																																											
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: left;">Root Cause</th> <th colspan="8" style="text-align: left;">FAULT CATEGORY</th> </tr> </thead> <tbody> <tr> <td>Environment</td><td>☐</td><td>☐</td><td>No Re-verification</td> <td>☐</td><td>Pressure/Forced</td> <td>☐</td><td>Temperature/Cure</td> <td>☐</td><td>Power Loss/Surge</td> <td>☐</td><td>Positioned Wrong</td> </tr> <tr> <td>Design</td><td>☐</td><td>☐</td><td>Operator</td> <td>☐</td><td>Bending</td> <td>☐</td><td>Set-up</td> <td>☐</td><td>Folio/Program</td> <td>☐</td><td>Outside Dimensions</td> </tr> <tr> <td>Doc/Data</td><td>☐</td><td>☐</td><td>Offset/Setup</td> <td>☐</td><td>Centre Not Concentric</td> <td>☐</td><td>BOM/Route</td> <td>☐</td><td>Grain</td> <td>☐</td><td>Over/Under tolerance</td> </tr> <tr> <td>Equip/Tooling</td><td>☐</td><td>☐</td><td>Supplier</td> <td>☐</td><td>Cracks</td> <td>☐</td><td>Broken/Damage/Defect</td> <td>☐</td><td>Weld</td> <td>☐</td><td>Part Incorrect</td> </tr> <tr> <td>Handling/Pre</td><td>☐</td><td>☐</td><td>Training</td> <td>☐</td><td>Crimp/Kink/Ripple/Wave</td> <td>☐</td><td>Inspection Incomplete/Unqualified</td> <td>☐</td><td>Wrong Stock Pulled</td> <td>☐</td><td>Part Lost/Missing</td> </tr> <tr> <td>Material</td><td>☐</td><td>☐</td><td>Use for Testing</td> <td>☐</td><td>Cuffs</td> <td>☐</td><td>Contamination</td> <td>☐</td><td>Out of Sequence</td> <td>☐</td><td>Part Moved</td> </tr> <tr> <td>Internal Transport</td><td>☐</td><td>☐</td><td>Poor Information</td> <td>☐</td><td>Crushing</td> <td>☐</td><td>Countersink</td> <td>☐</td><td>Off-set</td> <td>☐</td><td>Drawing</td> </tr> <tr> <td>Tribal Knowledge</td><td>☐</td><td>☐</td><td>Rushing</td> <td>☐</td><td>Heat Treat</td> <td>☐</td><td>Cut Too Short</td> <td>☐</td><td>Mislabeled</td> <td>☐</td><td>Finish</td> </tr> <tr> <td>LOA</td><td>☐</td><td>☐</td><td>Product Improvement</td> <td>☐</td><td>Wave/Twist in Tube</td> <td>☐</td><td>Instructions Incomplete/Unclear</td> <td>☐</td><td>Fit/Function</td> <td>☐</td><td>Misread</td> </tr> <tr> <td>Substation</td><td>☐</td><td>☐</td><td>Process Improvement</td> <td>☐</td><td>Marks/Chatter</td> <td>☐</td><td>Drill Holes</td> <td>☐</td><td>Misaligned/off center</td> <td>☐</td><td>Turning Sequence</td> </tr> <tr> <td>Past Expiry Date</td><td>☐</td><td>☐</td><td>Manufacturing Process</td> <td colspan="8" rowspan="2" style="vertical-align: top;">OTHER :</td> </tr> <tr> <td>Misidentified</td><td>☐</td><td>☐</td><td>Past Due</td> </tr> </tbody> </table>												Root Cause				FAULT CATEGORY								Environment	☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	Design	☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	Doc/Data	☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	Equip/Tooling	☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	Handling/Pre	☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	Material	☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	Internal Transport	☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	Tribal Knowledge	☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	LOA	☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	Substation	☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	Past Expiry Date	☐	☐	Manufacturing Process	OTHER :								Misidentified	☐	☐	Past Due
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Misidentified	☐	☐	Past Due																																																																																																																																																												



D	CHANGED ANGLE FROM 71° TO 61° (B3-3)	SC	11.02.09
C	D4277-19 RIB ADDED, ADDITIONAL HOLES ADDED IN D4277-1	SC	10.12.23
B	RMV -13/-15/-17 (OBSOLETE); -3: 8.09 WAS 20.25 (C5-2); -9: 13.50 WAS 2.00 (B4-2); -5: 24.25 WAS 28.25 (B5-2)	CP	10.11.30
A	NEW ISSUE	SC	10.11.25
REV.	DESCRIPTION	BY	DATE
DESIGN	JPH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4277 TITLE RIBS SCALE NTS COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMPLICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	SC		
CHECKED			
MFG. APPR.			
DE APPR.			
DATE	11.02.09	REV. D	SHEET 1 OF 3

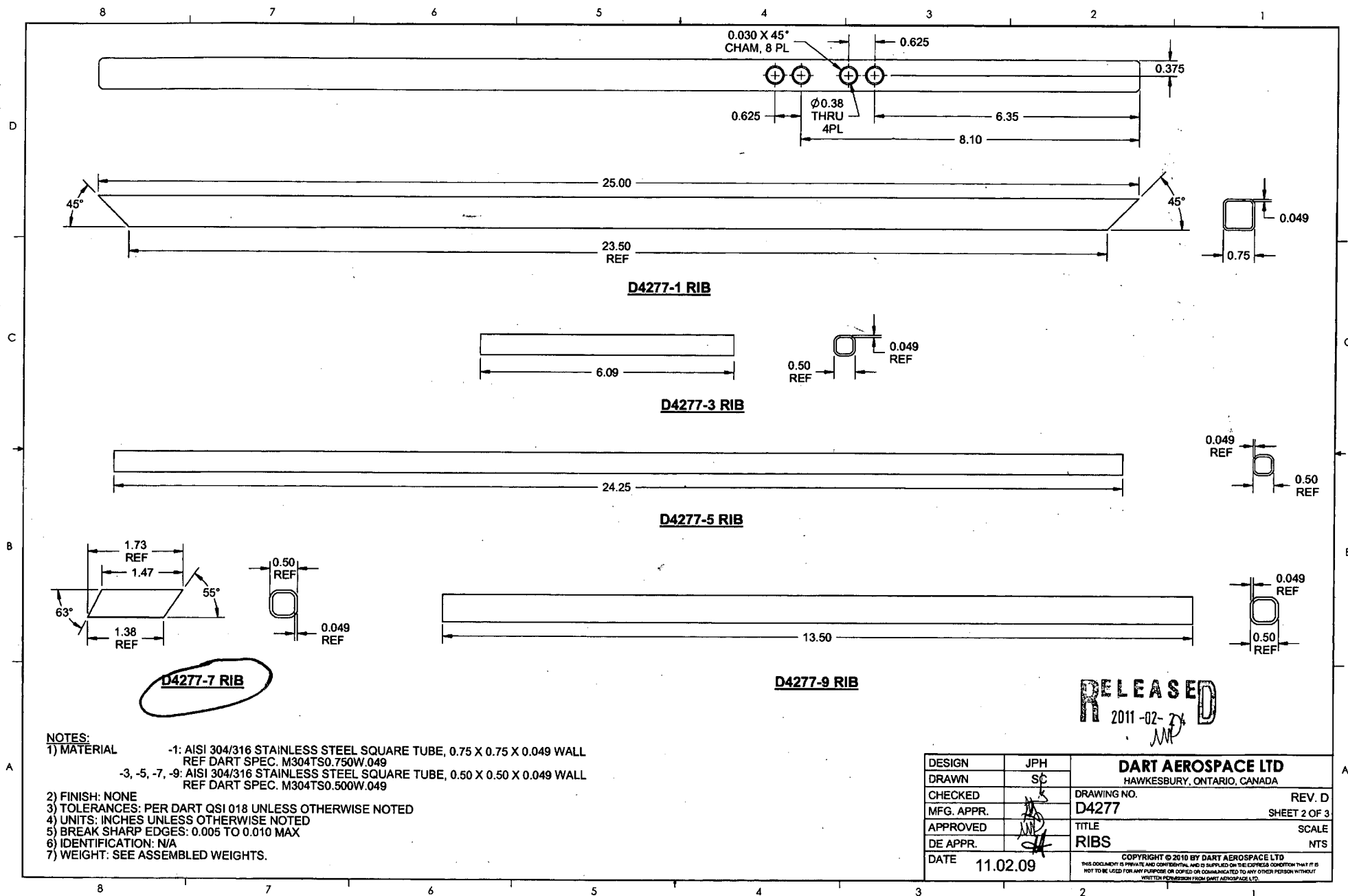
DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
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Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								



DQA: _____ Date: _____

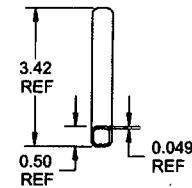
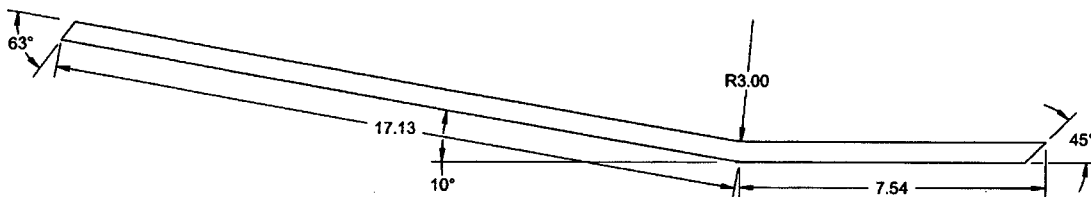


WORK ORDER NON-CONFORMANCE / UPDATE

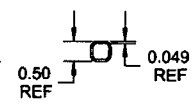
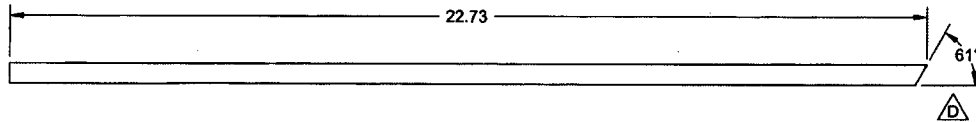
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					



D4277-11 RIB



D4277-19 RIB

RELEASED
2011-02-24

- NOTES:
- 1) MATERIAL -11, -19: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.50 X 0.50 X 0.049 WALL
REF DART SPEC. M304TS0.500W.049
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: SEE ASSEMBLED WEIGHTS.

DESIGN.	JPH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED	K	DRAWING NO.	REV. D
MFG. APPR.	[Signature]	D4277	SHEET 3 OF 3
APPROVED	[Signature]	TITLE	SCALE
DE APPR.	[Signature]	RIBS	NTS
DATE	11.02.09	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMBINED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

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WORK ORDER NON-CONFORMANCE / UPDATE

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Misidentified ☐	Past Due ☐																																																																